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10/596,135	06/01/2006	Steffen Clarence Pauws	NL 031435	2675

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EXAMINER	
VO, CECILE H	

ART UNIT	PAPER NUMBER
2169	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/596,135	PAUWS, STEFFEN CLARENCE	
	Examiner	Art Unit	
	CECILE VO	2169	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 March 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is in response to the Applicants' amendment received on 03/12/2008.

Claim Status

2. Claims 1-12 are amended.

3. Claims 13-20 are new.

4. Claims 1-20 are currently presenting for examination, with claims 1, 11 and 12 being independent.

Claim Objections

5. Applicant's amendments to objection of claims 2-10 are acknowledged. Therefore, objections to the claims are withdrawn.

Claims Rejections – 35 USC §112

6. Applicant's amendments to rejections of claims 1, 6-8 and 11 under 35 U.S.C 112, 2nd paragraph are acknowledged. Consequently, rejections to the claims 1, 6, 8 and 11 are withdrawn.

Claim Rejections – 35 USC §101

7. Applicant's amendments to rejection of claim 11 under 35 U.S.C 101 is acknowledged. However, examiner is not persuaded and hence, examiner maintains the rejections. In order for the claimed invention to be statutory subject matter, the claimed invention must fall within one of the statutory classes of invention as set forth in 35 USC 101.

In the present case, claim 11 is directed to a manufacturer. However, in accordance with disclosure, the "computer media" is intended to transmit media such as signals, and carrier waves (in view of specification, page 14, lines 2-4). Since the transmission media is not a tangible, physical article or object to constitute a manufacture, and it is not a machine, process of composition matter. Therefore, claim 11 is non-statutory.

8. This action has been made **FINAL**.

Response to Arguments

9. Applicant's arguments with respect to claims 1-12 have been considered but are moot in view of the new ground(s) of rejection.

Remarks

10. The Remarks filed on 03/12/2008 is objected to because Applicant states that "*Claims 12-20 are newly added*". According to Claims, claims 13-20 are news.

Claim Rejections - 35 USC § 101

11. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

12. Claim 11 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 11 is directed to a manufacturer. However, in accordance with disclosure, the "computer media" is intended to transmit media such as signals, and carrier waves (in view of specification, page 14, lines 2-4). Since the transmission media is not a tangible, physical article or object to constitute a manufacture, and it is not a machine, process of composition matter. As such, it is non-functional descriptive material. Non-functional descriptive material cannot be made statutory even if claimed as recorded on some computer readable medium. Therefore, claim 11 is non-statutory.

Claim Rejections - 35 USC § 102

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

14. Claims 1-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Tsui et al., US Publication Number 2007/0163425 (hereinafter Tsui).

Regarding claim Tsui discloses a method comprising:

decomposing a query string that corresponds to an encoding of an audio fragment into a sequence of a plurality of query sub-strings (e.g. the melody-to-note conversion subsystem converts the digitized input melody (as *a query string*) into a sequence of musical notes (as *sub-strings*) characterized by pitch, beat duration and confidence levels, §0042, lines 1-4);

independently searching a melody database for at least a respective closest match each sub-string of the plurality of query sub-strings (e.g. the note matching engine compares the differential note and timing file from the melody-to-note conversion subsystem with songs or pieces of music in the music reference database, §0044, lines 1-4); and

in dependence on search results for the respective sub-strings, determining at least a closest match for the query string (e.g. the note matching engine calculates a matching score for each song in the database, §0044, lines 20-21; and the out put subsystem sorts the songs or music in the database based on the matching scores. The highest ranked song(s) or piece(es) of music is selected for presentation to the user, §0045).

Regarding claim 2, Tsui further discloses, wherein decomposing the query string includes decomposing the query string into sub-strings that each substantially correspond to a phrase of a melody (§0042, lines 1-4).

Regarding claim 3, Tsui further discloses, including enabling a user to input the query string (e.g. the input melody originate from a user, §0041, line 4).

Regarding claim 4, Tsui further discloses, wherein the query string includes a plurality of query input modalities that includes at least one of: humming, singing, whistling, tapping, clapping, percussive vocal sounds (§0041, lines –11).

Regarding claim 5, Tsui further discloses, wherein the query string includes a plurality of query input modalities and a change in query input modality substantially coincides with a sub- string boundary (e.g. a list of breakpoints, which indicate the boundaries between distinct notes in the input melody, §0048).

Regarding claim 6, Tsui further discloses, wherein decomposing the query string includes:

estimating how many (Ns) sub-strings are present in the query string (§0062, lines 5-16);

dividing the query string in Ns sequential sub-strings; each sub-string being associated with a respective centroid that represents the sub-string (§0010);

iteratively:

for each centroid, determining a respective centroid value in dependence on the sub-string associated with the respective centroid (§0067, lines 1-4); and

determining, for each of the sub-strings, corresponding sub-string boundaries by minimizing a total distance measure between each of the centroids and the sub-string associated with the respective centroid (§0011);

until a predetermined convergence criterion is met (§0008).

Regarding claim 7, Tsui further discloses, wherein estimating how many (Ns) sub-strings are present in the query string includes dividing a duration of the audio fragment by an average duration of a phrase (§0010).

Regarding claim 8, Tsui further discloses, wherein decomposing the query string includes retrieving for each of the input modalities a respective classification criterion and detecting the change in query input modality, based on the classification criteria (§0104).

Regarding claim 9, Tsui further discloses, including constraining a sub-string to fall within two successive changes in query input modality (§0052-§0055).

Regarding claim 10, Tsui further discloses, searching for each sub-string in the database includes generating for the sub-string an N-best list (N >=2) of the N most closest corresponding parts in the database with a corresponding measure of resemblance (e.g. a list of breakpoints, §0048); and performing the determining of the at least closest match for the query string based on the measures of resemblance of the

N-best lists of the sub-strings (§0050-§0051).

Regarding claim 11, Tsui discloses a computer media that includes a computer program product operative to cause a processor to:

decompose a query string that corresponds to an encoding of an audio fragment into a sequence of a plurality of query sub-strings (§0042, lines 1-4);

independently search a melody database for at least a respective closest match for each sub-string of the plurality of query sub-strings (§0044, lines 1-4); and

in dependence on the search results for the respective sub-strings, determine at least a closest match for the query string (§0045).

Regarding claim 12, Tsui discloses a system comprising:

an input for receiving a query string that corresponds to an encoding of an audio fragment from a user (§0041, lines 1-2);

a melody database for storing respective representations of plurality of audio fragments (e.g. a music reference database, §0043, lines 1-3);

at least one processor that is configured to:

decompose the query string into a sequence of a plurality of query sub-strings (§0042, lines 1-4);

search the database for at least a respective closest match for each sub-string of the plurality of query sub-strings (§0044, lines 1-4); and

determine at least a closest match for the query string based on the closest matches for the plurality of query sub-strings (§0045).

Claims 13-16 recite "the system" for performing the method similar to claims 2-6, therefore claims 13-16 are rejected by the same reasons as discussed above.

Regarding claim 17, Tsui further discloses, the processor is configured to decompose the query string by:

retrieving for each of the input modalities a respective classification criterion and

detecting the change in query input modality based on the classification criteria (§0104).

Claims 18-19 recite "the system" for performing the method similar to claims 6-7, therefore claims 14-15 are rejected by the same reasons as discussed above.

Claims 20 recites "the system" is similar to claim 10, therefore claims 20 are rejected by the same reasons as discussed above.

Conclusion

15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CECILE VO whose telephone number is (571)270-3031. The examiner can normally be reached on Mon - Thu (9AM - 5:00PM EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ali can be reached on 571-272-4105. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

July 09, 2008

/Cecile Vo/
Examiner
Art Unit 2169

/H. Q. P./
Primary Examiner, Art Unit 2168

/Mohammad Ali/
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